- Synthesis
  - 1. Stratum Basale
    - Deepest
      - Mitosis constantly resupplies epidermis with new cells, mostly occurs at night (decrease skin cancer risk)
    - Simple Cuboidal to columnar shape
    - Merkel Cells
  - Stratum Malphigi
  - 2. Stratum Spinosum
    - Several layer, irregular shape
      - More keratin produced fills cytoplasm
        - forms tonofibril bundles, X-linked by filaggrin
    - Spines
    - Lamellar granules
      - Glycolipids
        - Hydrophobic
    - Langerhans cells
- CYTOMORPHOSIS
- Structure of Epidermis
  - Desmosomes present in all layers
  - Fibronectin in basement membrane regulates rate of keratinization, Epidermal GF stimulates kertinocyte proliferation
  - 3. Stratum Granulosum
    - Keratohyalin granules
      - Dark, irregular shaped, non-membrane bound, tonofilaments may pass through
    - Flattened, Nuclei disappearing
      - Substances cannot get through, kills cells, no nutrients
    - Transglutaminase, X-linking of involucrin on cell membrane = thicker
      - Water impermeable
    - Lamellar granules
      - Glycolipids
        - Hydrophobic
    - Transitional layer
      - Synthesis to degeneration
- Degeneration
  - 4. Stratum Lucidum
    - Part of Stratum Corneum
    - Thin, 2-3 cell layers thick
    - No nuclei = squames
  - 5. Stratum Corneum
    - Most superficial
      - No nuclei = squames
    - Stratum Disjunctivum
- Thick Skin (glabrous skin)
  - All 5 layers present
  - NO hair follicles, NO arrector pili muscles, NO sebaceous glands
  - Sweat glands
  - Palms and soles
- Thin Skin (Hairy skin)
  - Hair follicles, arrector pili muscles, sebaceous glands, and sweat glands
    - Eyelid skin is the thinnest
  - Reduced thickness of stratum basale, spinosum, corneum
  - Absent stratum lucidum, stratum granulosum